

Indian Standard

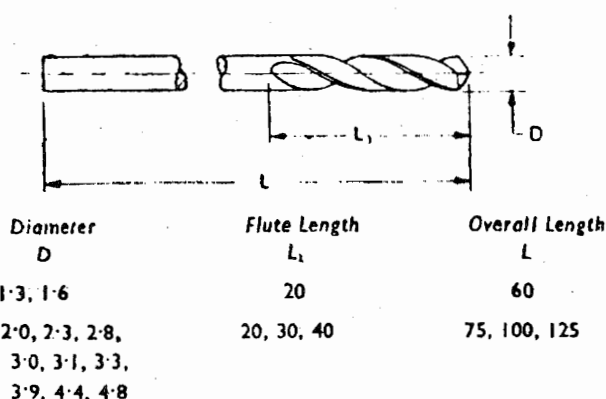
(Reaffirmed 2002)

(Reaffirmed 2012)

(Reaffirmed 2017)

SPECIFICATION FOR TWIST DRILL USED IN ORTHOPAEDIC SURGERY

1. **Scope**—Dimensions and other requirements for twist drill used in orthopaedic surgery.
2. **Nomenclature**—Nomenclature of different parts of drill as given in 3 of IS:599-1960 'Specification for twist drills (revised)' shall apply.
3. **Material**—Stainless steel conforming to Designation 30Cr 13 of Schedule V of IS:1570-1961 'Schedules for wrought steels for general engineering purposes', carbon steel or high speed steel.
4. **Shape and Dimensions**—As shown in Fig. 1.



All dimensions in millimetres.

FIG. 1 TWIST DRILL

4.1 The point shall be ground to provide a lip clearance angle of 8 to 12°. The included point angle shall be approximately 118°, each lip being equally inclined to the axis of the drill. The web (core) thickness and the width of land shall be according to 4.4 and 4.5 of IS:599-1960. The helix angle shall be $20 \pm 5^\circ$. The tolerance on diameter of the drill shall be h8 [see IS:919-1963 'Recommendations for limits and fits for engineering (revised)'].

5. **Workmanship**—The point of the drill shall be concentric with the shank. The drill shall be free from burrs, cracks and draw marks. The flutes shall be so designed that the cutting lips are straight and equal. The drill shall be provided with adequate body clearance. The shank shall be parallel and well balanced. The drill shall be right hand unless specified otherwise. It shall be sharpened and well finished.

6. **Hardness**—The hardness of the cutting portion of the drill shall be as given below:

Stainless steel	550 to 600 HV
Carbon steel	650 to 700 HV
High speed steel	750 to 800 HV

7. **Test**—Fit the drill in a chuck of hand operated drilling machine and make ten holes in series in a fresh sheep bone of at least 10 mm thickness. Drill the holes without interruptions. The drill shall withstand the test without seizing or choking. The point and lips of the drill shall be fit for further service on completion of the test.

8. **Marking**—The drill shall be marked at the shank with the manufacturer's name, initials or trade-mark; and the size of the drill.

8.1 **Certification Marking**—Details available with the Bureau of Indian Standards.

9. **Packing**—As agreed to between the purchaser and the supplier. However, it is recommended that the drill should be protected at its cutting edge by plastic peeling.

Adopted 30 September 1970

© June 1971, BIS

Gr 1